UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,374	01/22/2001	Hemal V. Shah	10559-370001/P10176	2368

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EXAMINER
CHANKONG, DOHM

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Advisory Action **Before the Filing of an Appeal Brief**	09/768,374	SHAH ET AL.
	Examiner	Art Unit	
	Dohm Chankong	2152	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED <u>16 August 2005</u> FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

   a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.

   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

     Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

<u>NOTICE OF APPEAL</u>

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

<u>AMENDMENTS</u>

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will <u>not</u> be entered because

   (a)☐ They raise new issues that would require further consideration and/or search (see NOTE below);

   (b)☐ They raise the issue of new matter (see NOTE below);

   (c)☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d)☐ They present additional claims without canceling a corresponding number of finally rejected claims.

     NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.
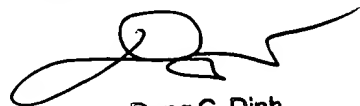
   Claim(s) rejected: <u>*1-30*</u>.

   Claim(s) withdrawn from consideration: _____.

<u>AFFIDAVIT OR OTHER EVIDENCE</u>

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will <u>not</u> be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will <u>not</u> be entered because the affidavit or other evidence failed to overcome <u>all</u> rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

<u>REQUEST FOR RECONSIDERATION/OTHER</u>

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: <u>see attached.</u>

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.

13. ☐ Other: _____.

Dung C. Dinh
Primary Examiner

DETAILED ACTION

1>   This action is in response to Applicant's request for reconsideration and is a

continuation of the Advisory Action submitted herewith . Claims 1-30 are presented for

further consideration.

Response to Arguments

2>   Applicant's arguments in regards to the claims have been carefully considered but are

not persuasive.

3>   In regards to claim 1, Applicant asserts that the combination of Haviv and Garcia are

improper in part because Garcia is related to sending RDMA request packets over a network

and does not teach maintaining byte stream order over a first and second protocol.

In response to this, Examiner would like to point to claim 1 of Garcia where he clearly

discloses translating RDMA transaction requests into a sequence of request packets. Garcia

intends to maintain the order of the translated packets as illustrated by his use of sequence

numbers and disclosure [column 1 «lines 54-60»]. Garcia's invention allows the translated

packets to be maintained in-order or out of order as the system requires and provides a level

of flexibility not previously seen in Haviv.

Thus, Garcia provides an improvement over Haviv providing both in-order and out-

of-order delivery. In particular, what should be noted is that Garcia states that for systems

such as virtual interface architecture (VI), in-order delivery of packets are a necessity [see

Garcia, column 6 «lines 48-54»]. This can provide problems especially when trying to

implement RDMA transactions within the VI environment as RDMA allows for out of

order delivery. Garcia solves this problem by utilizing sequence numbers so as RDMA

transactions are translated to be sent as packets in the VI environment, the order can be

maintained which satisfies the in-order delivery requirement.

This functionality seems especially relevant as Haviv discloses his invention can be

implemented in a systems area network utilizing VI architecture [0059] and utilizing RDMA

transactions. Therefore, according to Garcia, there is a clear motivation to implement the in-

order translated packet delivery capabilities as Haviv's VI environment within the SAN

would require in-order packet delivery. Garcia's innovation reconciles the opposing delivery

policies of RDMA and VI would thus allow Haviv to be successful.

The proposed combination of Haviv and Garcia clearly read on the limitations of the

claim as written.

4>   In regards to claims 2 and 3, Applicant asserts that the combination of Haviv, Garcia

and Ketcham are improper. The limitations in question refer to the translation of a single

packet into multiple packets and translation of multiple packets into a single packet.

As seen in claim 1 in the remarks and in the following rejections, the proposed

combination of Haviv and Garcia disclose translating packets from one protocol to a second

protocol but do not disclose the claimed functionality of claims 2 and 3. In particular, they are

deficient in regards to translating from a single packet to multiple packets and vice versa.

Ketcham is utilized to compensate for this deficiency; in particular, Ketcham's router has the

capability to aggregate and deaggregate packets for the benefit of increased network

efficiency [see abstract]. Ketcham further discloses that his router is capable of performing

protocol translation of packets. Further, Haviv discloses his router has various capabilities

including multiplexing [presumably combining packets].

Therefore, there is a motivation to combine the references as well as a reasonable

expectation of success since Haviv and Ketcham disclose a router with similar capabilities.

Haviv and Garcia disclose a router capable of translating packets from one protocol to a

second protocol. Ketcham discloses a router capable of translating packets from one protocol

to another while also enabled to aggregate and deaggregate the packets. Ketcham merely

provides an innovative improvement to the router enabling packet aggregation

supplementing Haviv and Garcia's ability to translate packets between protocols in a more

network efficient manner.

5>   Applicant's arguments in regards to claim 8 have been carefully considered but are not

persuasive.

As can be seen in claim 1 of Haviv, a router sends an acknowledgement packet to the

first node (client) upon receiving a connection request from the first node. The request stops

at the router as the router selects an appropriate second server based on information from the

request. Clearly, the request is not translated by the router and an acknowledgement of the

request is sent back by the proxy based on the fact that it is a connection request.

Thus the rejection under 35 U.S.C § 102(e) is proper.

6>   In regards to claims 11, 21 and 28 Haviv discloses:

if the first packet meets a specified criterion relating to whether a connection has already been established between the network client and the proxy node using the first protocol, translating the first packet using a second protocol used by the application node, and sending the translated first packet to the application node [0016, 0053 | claims 1, 17, 19]. The router examines transactions sent from a client, and provided that the transaction is a command and not a connection request, the router translates the command and transmits to the server. That is, after a client has established a connection with the router, subsequent commands are translated and transmitted to the server. The criterion is whether or not the packet corresponds to a connection request; the connection request signifying that the connection has not already been established. A proxy could reasonably assume that any commands that are not connection requests are from clients that have already established the necessary connections.

7>   In regards to claims 19 and 20, as it is unclear to Examiner what Applicant means by the limitation of "protocol processing requirements", in interpreting claim 19, Examiner had relied on Applicant's specification for guidance in ascertaining the meaning of the limitation and in particular, the following section: "At one level, the network nodes 16a . . . 16k can perform session level load balancing on a group of proxy nodes 18a . . . 18k using network address translation techniques or Internet protocol tunneling techniques". See Applicant's specification, page 28, lines 5-8. Since this disclosure refers to the elements (network nodes, proxy nodes) and functionality (load balancing) present in claim 19, this was interpreted as the subject matter for "load balancing among the proxy nodes based on protocol processing requirements" seen

in the claim. Examiner interpreted session level load balancing as corresponding to the session level [Layer 5] load balancing present in Squire.

Primary reference, Haviv was deficient to this functionality, and the Squire reference was used to teach the functionality and the advantageousness of its implementation within a network environment. Applicant further asserted that Squire's network address translating techniques are very different from the claimed subject matter; however, it is clear from the specification that Applicant indeed intended to use network address translation techniques for the purposes of load balancing and it is unclear why Squire's network address translating techniques are so different from the network address translating techniques proposed in his specification. Since Squire discloses the subject matter of the limitations as described in the specification [see for example, column 2 «lines 53-60» | column 6 «lines 42-48»], Applicant's arguments against it are not persuasive.

Similarly, Applicant's specification was referenced in interpreting the limitations of claim 20. As is it unclear what Applicant means with "application processing requirements", Examiner referred to following section found in the specification: "*At a second level, each proxy node 18a . . . 18k can perform application level load balancing on a group of application nodes 20a, 20b, 20c . . . 20k*". See Applicant's specification, page 28, lines 9-11. The application level load balancing presented within the Nelson reference represents a fair minded interpretation of "application processing requirements" in light of the application level load balancing disclosed in the specification.

Haviv was deficient to this functionality and the Nelson reference was used to teach the claimed functionality. Nelson clearly discloses application level load balancing of

network data based on application requirements [column 5 «lines 28-40» | column 9 «lines 3-12»].
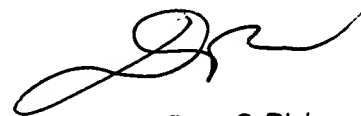
Applicant further argues that the prior art references could be combined to produce the claimed invention. Haviv, as the foundation, provides the client nodes, network nodes, proxy nodes and application nodes [Figure 1 | 0020]. The proxy nodes are able to perform load balancing techniques to select the proper application node [0029, 0030]. Haviv did not disclose load balancing to select the proxy nodes based on protocol processing requirements or that his proxy nodes disclosed load balancing based on application processing requirements. Haviv provides ample motivation to implement such load balancing between proxies [0020] but was deficient in teaching how the load balancing was achieved. Squire was utilized to disclose this first missing element, specifically related to session level load balancing to proxies in a network [see Squire, Figure 1 | column 4 «lines 61-65»].

Nelson was disclosed to supplement Haviv's load balancing techniques to select application nodes in favor of an application level (layer 7) approach [see Nelson, column 4 «lines 38-53»]. Such an implementation seems reasonable in light of Haviv's disclosure that his router may use many methods for load balancing [0030].

Therefore, the proposed combination of Haviv, Squire and Nelson discloses the limitations as claimed, is reasonable and is motivated by reasons stated within Haviv.

DC

9.14.2005

Dung C. Dinh
Primary Examiner